

# Parameter Overview

February 1, 2020

## Introduction

This file contains the parameters we tuned for each specific algorithm. All parameters, which we changed from the default values, are listed.

The provided datasets (rosbags) can be downloaded here:

[Scenario\\_1](#)

[Scenario\\_2](#)

For more information: [README](#)

| Method                 | Parameters                               | Values            |
|------------------------|--|-------------------|
| <i>RGBDOdometry</i>    | MaxDepth                                 | 15                |
|                        | MinDepth                                 | 0.3               |
|                        | MaxDepthDiff                             | 0.05              |
|                        | MaxPointsPart                            | 0.05              |
| <i>DVO</i>             | coarsest_level                           | 5                 |
|                        | finest_level                             | 1                 |
|                        | max_iterations                           | 300               |
|                        | influence_function                       | 2                 |
|                        | influence_function_param                 | 30                |
|                        | use_weighting                            | true              |
|                        | scale_estimator_param                    | 1                 |
|                        | precision                                | 0.00005           |
| <i>Fovis</i>           | fast_threshold                           | 15                |
|                        | max_pyramid_level                        | 4                 |
|                        | fast_threshold_adaptive_gain             | 0.005             |
|                        | feature_window_size                      | 10                |
| <i>ICPOdometry</i>     | MaxDepth                                 | 15                |
|                        | MinDepth                                 | 0.3               |
|                        | MaxDepthDiff                             | 0.25              |
|                        | MaxPointsPart                            | 0.03              |
| <i>RgbdICPOdometry</i> | MaxDepth                                 | 5                 |
|                        | MinDepth                                 | 0.3               |
|                        | MaxDepthDiff                             | 0.25              |
|                        | MaxPointsPart                            | 0.23              |
| <i>CCNY</i>            | reg/ICPProbModel/min_correspondences     | 12                |
|                        | reg/ICPProbModel/n_nearest_neighbors     | 20                |
|                        | reg/ICPProbModel/max_assoc_dist_mah      | 13                |
|                        | reg/ICPProbModel/max_corresp_dist_eucl   | 0.04              |
| <i>DVOSLAM</i>         | tracking/coarsest_level                  | 5                 |
|                        | tracking/finest_level                    | 1                 |
|                        | tracking/max_iterations                  | 300               |
|                        | tracking/scale_estimator_param           | 1                 |
|                        | tracking/influence_function_param        | 30                |
|                        | tracking/mu                              | 0                 |
|                        | tracking/precision                       | 0.0005            |
|                        | slam/max_rotational_distance             | 0.3               |
|                        | slam/min_entropy_ratio                   | 0.3               |
|                        | slam/constraint_search_radius            | 0.6               |
|                        | slam/constraint_min_entropy_ratio_coarse | 0.70              |
|                        | slam/constraint_min_entropy_ratio_fine   | 0.8               |
| <i>RTABMap</i>         | -  | -                 |
| <i>ORB-SLAM2</i>       | Camera.fx                                | 927.7444458007812 |
|                        | Camera.fy                                | 928.2129516601562 |
|                        | Camera.cx                                | 655.3325805664062 |
|                        | Camera.cy                                | 361.226318359375  |
|                        | Camera.width                             | 1280              |
|                        | Camera.height                            | 720               |
|                        | Camera.bf                                | 13.640315374      |
|                        | ORBextractor.scaleFactor                 | 1.25              |
|                        | ORBextractor.iniThFAST                   | 20                |
|                        | ORBextractor.minThFAST                   | 6                 |
|                        | ORBextractor.nLevels                     | 8                 |
|                        | ORBextractor.nFeatures                   | 2500              |
| <i>RGBDSLAMv2</i>      | config/nn_distance_ratio                 | 0.5               |
|                        | config/ransac_iterations                 | 500               |